

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

Draft Conditional Major / Synthetic Minor, Construction / Operating

Permit: F-07-002

Baillie Lumber Company

Lietchfield, KY 42754

January 10, 2007

Masssoud Kayvanjah, Reviewer

SOURCE ID: 21-085-00026

SOURCE A.I. #: 1554

ACTIVITY ID: APE20060001

**SOURCE DESCRIPTION:**

The application of Baillie Lumber for a revision of their existing minor source State Origin Permit (S-02-097) for the addition of a 28.1 indirect heat exchanger was received on September 22, 2006, September 27, and December 5, 2005 respectively. The source requested limits on the hours of operation for the boilers, the reason being that the source wide potential emissions of regulated air pollutants exceeded the major source threshold. Specifically, the 10 mmBTU/hr natural gas boiler (EP-01) shall be operated not more than 336 hours annually, the 28.7 mmBTU/hr wood fired boiler (EP-04) shall be operate not more than 6000 hours, and the new 28.1 mmBTU/hr wood fired boiler (EP-05) operated not more than 8436 hours. However, based on the emissions calculations evaluation, the Division has determined that the 401 KAR 52:020 -Title V requirements will still apply to the significant revision. Conversely, the sources actual emissions of regulated air pollutants including the new construction are greater than fifty percent of the major source threshold. Therefore, the Division has determined that to preclude the applicability of 401 KAR 52:020, the facility shall be permitted under 401 KAR 52:030 and emissions of any regulated shall not exceed 90 tons per any consecutive twelve months.

Emissions were calculated based on current AP 42 emission factors for the existing units and vendor guarantees on nitrogen oxides and carbon monoxide for the new boiler, which were submitted by the permittee to the Division. The facility also operate a Lumber trimming mill, including one 26000 bd ft/hr trimmer, one 5000 bd ft/hr planner, one 1500 bd ft/hr gang saw, and one 2.5 tons/hr wood dog, controlled by a baghouse which are is not limited on hours of operation. Additional information used in making this review was obtained from file record

**COMMENTS:**

**EU 01- 10.043 mmBTU/hr Natural gas boiler**

401 KAR 59:015, new indirect heat exchangers, applicable to emissions units with a rated capacity less than 250 mmBTU/hr which commenced on or after April 9, 1972.

Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate emissions shall not exceed 0.56 lb/mmBTU based on a three-hour average.

Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exceed 20% opacity based on a six-minute average, except a maximum of 40% opacity, based on six minutes average, shall be

permissible for not more than 6 consecutive minutes in any consecutive 60 minutes during cleaning the fire-box or blowing soot.

Pursuant to 401 KAR 59:015, Section 4(2)(c), for emissions shall not exceed 20 % opacity based on a six minute average, except for emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating condition provided the method used is the recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Pursuant to 401 KAR 59:015, Section 5(1)(c), the sulfur dioxide emission shall not exceed 3.0 lb/mmBTU based on a twenty-four hour average.

**Emissions Unit 04 – 28.7 mmBTU/hr Wood Fired indirect heat exchanger-1995**

401 KAR 59:015, new indirect heat exchangers, applicable to emissions units with a rated capacity less than 250 mmBTU/hr which commenced on or after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, for units less than or equal to 100 mmBTU/hour but greater than or equal to 10 mmBTU/hour commenced after June 9, 1989

Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate emissions shall not exceed 0.41 lb/mmBTU based on a three-hour average.

Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exceed 20% opacity based on a six-minute average, except a maximum of 40% opacity, based on six minutes average, shall be permissible for not more than 6 consecutive minutes in any consecutive 60 minutes during cleaning the fire-box or blowing soot.

Pursuant to 401 KAR 59:015, Section 4(2)(c), for emissions shall not exceed 20 % opacity based on a six minute average, except for emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating condition provided the method used is the recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Pursuant to 401 KAR 59:015, Section 5(1)(c), the sulfur dioxide emission rate shall not exceed 2.74 lb/mmBTU, based on twenty-four hour average.

**EU 05- 28.1 mmBTU/hr Wood Fired indirect heat exchanger -Projected to construct in 2007**

401 KAR 59:015, new indirect heat exchangers, applicable to emissions units with a rated capacity less than 250 mmBTU/hr which commenced on or after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, for units less than or equal to 100 mmBTU/hour but greater than or equal to 10 mmBTU/hour commenced after June 9, 1989

Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate matter emissions shall not exceed 0.35 lb/mmBTU actual heat input each based on a three-hour rolling average. Compliance shall be demonstrated using the vendor guaranteed emission factors filed with the Division on September 27,

2006 and December 5, 2006.

Pursuant to 401 KAR 59:015, Section 5(1)(c), Sulfur dioxide emissions shall not exceed 2.15 lb/mmBTU, based on a 24-hour average. Pursuant 40 CFR 60.44c (d) – Compliance and performance for sulfur dioxide requires test if only coal, oil or their mixture is combusted, hence the affected facility is in compliance with SO<sub>2</sub> standard while burning wood.

Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exceed 20 percent opacity based on a six-minute average, except that a maximum of 40% opacity based on a six minute average shall be permitted for not more than 6 consecutive minutes in any consecutive 60 minutes during cleaning the fire-box or blowing soot.

**EU 02- Lumber trimming mill operations**

401 KAR 59:010, new process operations, applicable to each affected facility or source, associated with a process operation commenced on or after July 2, 1975 and limits particulate emissions. Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not exceed twenty (20) percent opacity based on a six-minute average.

Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions into the open air shall not exceed 34.93 lb/hr on a 3 hour average.

**Emissions Unit 03 (05) – Yard Area & Haul Road**

401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

Pursuant to 401 KAR 63:010 Section 3(1), no person shall cause, suffer or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne.

Pursuant to 401 KAR 63:010 Section 3(2), no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.

Pursuant to 401 KAR 63:010 Section 3(3), when dust, fumes, gases, mist, odorous matter, vapors or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

The permittee shall monitor the gas and wood fuel usage of the three boilers, the wood material process of the mill operations, the road and the yard areas on a daily basis.

**EMISSION AND OPERATING CAPS DESCRIPTION:**

To preclude the applicability of 401 KAR 52:020, emission of any regulated air pollutant shall not exceed 90 tons per year on any consecutive twelve months. Additionally, the 10 mmBTU/hr natural gas boiler shall be operated not more than 336 hours, the 28.7 mmBTU/hr wood fired boiler shall be operated not more than 6000 hours, and the new 28.1 mmBTU/hr wood fired boiler operated not more than 8436 hours.

**OPERATIONAL FLEXIBILITY: NONE****CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.